

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

MICHAEL C. MILLER	:	CIVIL ACTION
	:	
v.	:	
	:	
BGHA, INC., et al.	:	NO. 19-1293

MEMORANDUM

Bartle, J.

June 30, 2021

Plaintiff Michael C. Miller has sued defendants BGHA, Inc. d/b/a Big Game Treestands ("BGHA") and Dunham's Athleisure Corp. d/b/a Dunham's Sports ("Dunham's") in this diversity action for strict liability, negligence, and breach of warranty. Plaintiff claims that a treestand to be used for hunting, manufactured by BGHA and sold by Dunham's, was unsafe and caused serious and permanent injuries when it collapsed beneath him and he fell from a height of eighteen to twenty feet. Before the court is defendants' motion to exclude or limit at trial the testimony of plaintiff's expert, Brian Beatty.

I

The facts in this matter are contested, but for present purposes the court will view the facts in the light most favorable to plaintiff when considering whether to permit his expert, Brian Beatty, to testify.

In September 2014, plaintiff purchased from Dunham's a 2014 Big Game "The Guardian XL" Two-Man Ladderstand as manufactured by BGHA. Treestands allow a person or persons to sit in an elevated position while hunting. This model, LS4850, which can be used by two people, has a weight capacity of 500 pounds. It has been tested and complies with Treestand Manufacturer's Association ("TMA") and ASTM standards¹ and is accompanied by multiple warning labels on the box and with the written and video instructions.

This particular treestand consists of three ladder sections, a seat platform with a capacity for two, a foot platform, two arm rests attached to the seat platform, and a shooting rail across the front of the seat platform. There are also two full-body safety harnesses, an adjustable support bar to be installed between the tree and the lower part of the ladder, two stabilizer straps that crisscross and wrap behind the tree to the opposite poles of the stand, and a ratchet strap that attaches to either side of the treestand at the top. The instructions say that this stand requires three adults to install properly. Plaintiff, who owns a number of treestands,

1. ASTM International is formerly known as American Society for Testing and Materials and publishes standards across industries and products. There are ASTM standards that apply to the treestand industry.

testified that he watched the video of safety instructions and read the manual before the installation.

On October 1, 2014, plaintiff had installed the treestand on his grandparents' property with his friend, Dylan Kramer, when he fell from a height of approximately eighteen to twenty feet. According to plaintiff's deposition testimony, the treestand collapsed after he climbed the ladder and placed either his foot or his knee on the foot platform while attempting to secure his safety harness to the tree. Plaintiff is 6'5" and weighed approximately 290 pounds at the time of the incident.

Kramer is 5'3" and weighs 185 pounds. He testified at his deposition that he and plaintiff pulled the stand up and then plaintiff attached the stabilizer bar at about plaintiff's chest height between the ladder and the tree. According to Kramer, plaintiff wrapped a strap around the tree to secure the stabilizer bar and then Kramer climbed the ladder to put in place the ratchet strap and secure the upper portion of the treestand. He tightened the ratchet strap until it dug into the tree and was tight. Next plaintiff climbed up the ladder to secure his harness to the tree. He fell when he reached the foot platform and placed his foot or knee on it. He has no memory of what specifically happened that caused his fall.

The treestand stayed connected to the tree following plaintiff's fall and was bent down toward the ground.

Plaintiff's father collected the stand and accompanying parts and stored them in his garage. Plaintiff claims that he was wearing his safety harness at the time of his fall and was attempting to attach it to the tree at the moment when he fell.

Plaintiff offers Brian Beatty as his expert. Beatty is a mechanical engineer who worked in the power plant industry from 1989 through 2019 consulting on plant design, construction, safety, operations, maintenance, equipment, and product safety, among other areas. He currently works for Fleisher Forensics as a mechanical engineer consulting in product liability and premises liability cases on topics such as workplace safety and compliance.

As preparation for this matter, Beatty reviewed the pleadings, discovery, depositions, photographs,² engineering drawings for the treestand, local climatological data, and the expert report of defendants' expert. On January 24, 2020, Beatty inspected the treestand and disassembled ladder sections. He also viewed videos online of people installing different treestands, but he did not review the video instructions that

2. Some of the photographs were taken by Miles F. Buchman who initially performed an examination of the treestand on behalf of plaintiff on July 25, 2017 but is now deceased.

came with the model at issue here. He familiarized himself with the instruction manuals and looked up product details for other models online. He also reviewed photographs of the tree. He did not, however, examine the tree itself.

Beatty has opined in this matter on a range of topics including the warnings and instructions accompanying the treestand, the steel used in this product, the pressure plaintiff placed on the foot platform, and areas in which BGHA did not properly design the treestand or could have made it safer.

II

Rule 702 of the Federal Rules of Evidence provides that:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

The preeminent case on Rule 702 is Daubert v. Merrell Dow Pharmaceuticals, Inc. in which the Supreme Court explained

that "under the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable." 509 U.S. 579, 589 (1993). This standard also applies to "technical" and "other specialized" knowledge under Rule 702 and not just to "scientific" knowledge. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141 (1999).

Testimony is relevant if it will "assist the trier of fact to understand the evidence or to determine a fact in issue." Daubert, 509 U.S. at 591. Reliability requires that the testimony "be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation.'" Schneider ex rel. Estate of Schneider v. Fried, 320 F.3d 396, 404 (3d Cir. 2003). Rule 702 permits experts a "wide latitude to offer opinions" while the court acts in a "gatekeeping role." Daubert, 509 U.S. at 592, 597.

A Rule 702 inquiry is a "flexible one" that is focused "solely on principles and methodology, not on the conclusions that they generate." Id. at 594-95. Some though not the only factors that a court might consider are whether the theory can be tested, whether it has been subject to peer review, what the rate of error is, and whether the theory is generally acceptable. Id. at 593-94.

The party presenting the expert need not show that the opinions of the expert are correct but rather that by a

preponderance of the evidence the opinions of the expert are reliable. Id. at 744. Instead "[t]he analysis of the conclusions themselves is for the trier of fact." Kannankeril v. Terminix Int'l, Inc., 128 F.3d 802, 807 (3d Cir. 1997). Rule 702 "has a liberal policy of admissibility." Id. at 806.

The opposing party may attack expert testimony using "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof." Daubert, 509 U.S. at 596. Additionally, "[c]redibility is for the jury." Kannankeril, 128 F.3d at 809-10. The jury is tasked with making "[d]eterminations regarding the weight to be accorded, and the sufficiency of, the evidence relied upon by the proffered expert." Walker v. Gordon, 46 F. App'x 691, 695 (3d Cir. 2002).

III

Our Court of Appeals has explained that Rule 702 requires expert testimony to meet three standards: "qualification, reliability and fit." Schneider, 320 F.3d at 404. Qualification requires the expert to have specialized expertise. Id.

Defendants contest the qualifications of Beatty as an expert in this matter by arguing that he does not have any experience with treestand products or consumer products and has never before analyzed a similar product to this one. Plaintiff

counters that Beatty is qualified as a mechanical engineer who has spent much of his career evaluating equipment safety and safety processes.

Beatty is qualified by his education, training, and lengthy work history as a mechanical engineer in evaluating safety protocols and equipment to testify as to the product design and safety in this matter. He has specialized expertise and training as a mechanical engineer that will enable him to help the trier of fact understand the design of the treestand. The fact that this may be his first time testifying as to this specific product does not disqualify him from rendering an expert opinion on its design and safety. After all, there must always be a first time for any expert.

Defendants also aver that Beatty has no expertise in designing or formulating warnings or instructions and thus should not be permitted to testify as to the warnings and instructions. Our Court of Appeals has explained that an expert need not be "substantively qualified" in the design of the specific product or the drafting of service manual instructions to meet the "liberal qualification requirement" of Rule 702. Pineda v. Ford Motor Co., 520 F.3d 237, 245 (3d Cir. 2008). Rather the expert's "expertise in the stresses and other forces that might cause a material" to fail such as the product at

issue "was more than sufficient to satisfy Rule 702's substantive qualification requirement." Id.

In addition, the expert need not "opine on how the warning should be worded or how it should appear" to testify that the instructions might result in failure or that a warning is necessary since the expert is still "substantively qualified to testify on this point because a proper warning is also a solution to an engineering problem." Id. Beatty does not have to be a human factors or warnings expert to testify how the instructions and warnings affect the engineering forces in assembling the treestand and thus is qualified to testify on these issues.

This court must also evaluate an expert's testimony for fit. Fit requires that the testimony must be relevant to the issues of the case so as to assist the trier of fact. Schneider, 320 F.3d at 404. Defendants do not object to the fit of Beatty's opinions. His testimony on the design and use of the treestand clearly fit the issues of this case. His testimony will help the trier of fact understand the evidence presented regarding this treestand design.

We now turn to the reliability of Beatty's testimony. Reliability requires that an expert's opinions be based on sound methods and procedures. Id. Defendants argue that Beatty's opinions are inconsistent with physical evidence and are not

based on scientific principles or methodologies. Plaintiff counters that Beatty based his opinions on engineering principles and sound methodology following an inspection of the materials in question.

Beatty furnished an expert report and response to the report of defendants' expert and testified at a deposition. At his deposition, Beatty opined that BGHA could have designed a safer treestand that would have prevented plaintiff's fall. Specifically, he testified that two ratchet straps as used in models prior to the 2014 model are safer than one strap based on engineering principles because two straps eliminate a pivot point and thus would have stabilized the foot platform. He also opined that 2 millimeter thick steel rather than 1.2 millimeter thick steel can withstand more stress because it has a higher moment of inertia which reduces the sheer stress on the steel tube. Beatty conceded that he would need to do further calculations to say for sure whether 2 millimeter steel would have prevented the accident altogether.

The parties agree that the ladder sleeves, which connect and stabilize the ladder sections, were installed upside down. Beatty opines that BGHA created a defective design and could easily have designed the sleeves so as not to have allowed them to be installed incorrectly and to have indicated on the sleeves themselves which direction to place them.

Beatty also offered his perspective that the model at issue here was not as well supported as earlier models because BGHA eliminated the under gussets attached between the ladder and the foot platform so as to support the foot platform. Beatty posited that these gussets would have increased rigidity to resist sheer stress on the treestand and reduced the possibility of bending which occurred here. While he did not perform calculations as to the difference in the models, he understands the characteristics and differences between the 2014 and earlier models and used engineering principles to come to this conclusion.

In addition, Beatty testified that a strong enough treestand would not be affected by whether two people raised the treestand instead of three people as required by the instructions. Fewer people can impart unintended forces on the ladder, but a well-designed treestand would be able to absorb and easily handle any additional stress from having two people instead of three install it.

Finally, Beatty opined as to the ways in which the foot platform was improperly designed to withstand pressure caused by dynamic forces. For example, Beatty explained that the ASTM standards to which the treestand adhered do not account for the additional dynamic forces at a moment a person transitions from the ladder to the foot platform.

Beatty undertook a pounds per square inch ["psi"] analysis based on engineering principles that calculates the pressure applied over a given surface area. The treestand was tested under the ASTM standards for 10 psi. Beatty opined that plaintiff's weight from his foot or knee on the foot platform would have applied greater pressure. The structural static strength of the treestand is rated for twice the weight rating, which in this case is 500 pounds. However, Beatty explained that one can exceed the pressure tested on the treestand with a weight less than 500 pounds if used on a smaller surface area thereby applying higher pressure to that surface area.

Plaintiff weighed approximately 290 pounds at the time of the incident. Beatty estimated that plaintiff applied that weight when he stepped or knelt on the foot platform over what was perhaps a 25 square inch surface area. Such weight on that surface area would create a pressure of around 11.6 to 12 psi on the foot platform thus exceeding the 10 psi as tested. According to Beatty, when plaintiff stepped on the foot platform the pressure exceeded the yield strength of the steel based on calculations for sheer stress and caused the steel tubing to deform.

Beatty admits, as did defendants' expert, that he did not test any of the materials. He also testified that he has no opinion on whether plaintiff was wearing his safety harness.

However, plaintiff was climbing the ladder to attach his safety harness to the tree at the level of the seat platform when he fell. Whether he was wearing his safety harness is irrelevant since he fell before having the chance to attach it.

In support of their arguments to exclude, defendants cite Surace v. Caterpillar, Inc., a products liability case in which our Court of Appeals affirmed the district court's exclusion of the plaintiff's expert. 111 F.3d 1039 (3d Cir. 1997). In that case, plaintiff's proffered expert was an electromechanical engineer who intended to testify regarding warning devices and based his opinion on the particular "phenomenon of habituation." Id. at 1055. The Court of Appeals found that his "theory of liability 'hinged on habituation,' an area in which [the expert] has no training and no experience." Id. The Court of Appeals explained that the expert had not read any literature on habituation, had not participated in any testing, did not have any experience in designing this product from a human safety standpoint, and based his opinion solely on another individual. Id. at 1055-56. The court concluded that "[b]ecause habituation was the crux of his theory of liability, and indeed the central issue of design defect in the case" the expert's testimony was properly excluded. Id. at 1056.

Unlike the expert in Surace, Beatty offers opinions from an engineering perspective on the design and safety aspects

of the treestand based on support, strength, dynamic loads, and other principles common in engineering. His opinion does not hinge on an unusual concept with which he has no familiarity or experience as was the case of the expert's reliance on habituation in Surace.

Beatty's opinions are reliable as they are based on engineering principles and sound methodologies. They are not the unsupported speculation that the court in its gatekeeping role is tasked to exclude. Significantly, Beatty testified about the psi analysis in determining the amount of pressure applied on the foot platform at a given point and that the pressure applied exceeded the ASTM standards the treestand was certified to withstand. His psi analysis can be tested and evaluated for correctness. He also is well-qualified as a mechanical engineer to discuss the sheer stress and dynamic forces involved in a product's design.

The fact that defendants dispute Beatty's conclusions regarding the strength and design of the treestand does not alter this conclusion since Beatty's analysis does not have to be correct or without flaw to be admitted. See In re Paoli, 25 F.3d at 744. Instead, the party presenting the expert need only show that by a preponderance of the evidence the opinions of the expert are reliable. Id. As Beatty relies on engineering principles that are able to be tested in forming his opinions,

his testimony is reliable. It is up to the jury as the trier of fact to determine whether his analysis is correct, whether he is a credible witness, and what weight to apply to his conclusions. See Kannankeril, 128 F.3d at 809-10. Defendants may dispute any of Beatty's testimony on cross-examination and with the presentation of their own expert's testimony. See Daubert, 509 U.S. at 596.

Finally, defendants argue that the court should exclude Beatty's testimony because he failed to rule out all other possible causes of the accident. However, the case they cite to support this argument is Heller v. Shaw Industries, Inc., 167 F.3d 146 (3d Cir. 1999). There our Court of Appeals explained that a medical expert need rule out only "[o]bvious alternative causes." Id. at 156. Beatty ruled out other causes of plaintiff's fall and was not obligated to opine further on the matter. Again, what caused plaintiff to fall and whether the treestand had a design defect and inadequate warnings is for the jury to decide.

As Beatty is qualified, his testimony fits the issues of this case, and his opinions are reliable, this court will admit him as an expert to testify at trial on behalf of plaintiff.